Thank you for your comment, Mark Hilberman.

The comment tracking number that has been assigned to your comment is OSTS2012D50047.

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Comment Submitted:

March 19, 2012
Comments on the BLM's Programmed Environmental Impact Statement [PEIS] for Oil Shale and Tar Sands in Colorado, Utah and Wyoming,
March 19, 2012 Mark Hilberman

A group of worried ranchers attended the presentation of the draft document in western Colorado on March 12, 2012. None of the BLM maps in the PEIS show where and how existing land use will be disrupted by any of the proposed plans. Nevertheless, it is clear that fossil fuel extraction in these areas will disrupt existing ranching and recreational uses in these dry western lands. This arid portion of the country is projected to become dryer still. Furthermore, scars upon the land heal slowly: witness still evident 150 year old Pony Express and immigrant trails.

Water consumption and potential contamination is of great concern: the Colorado River no longer drains into the ocean as existing human and agricultural usage already consumes all its water. Moreover, DOE Secretary Chu's recent statement to Congress that our priority goal should be to develop alternative energy sources is correct.

With this in mind alternatives 2 or 3 make the most sense. Alternative 2b which requires and RD&D phase first is presently preferred by the BLM allows for the gathering of additional essential information for rational future decision making.

- However, there is no evidence in this document that the BLM intends to gather new information beyond simple technical extraction issues. A significant part of the BLM's responsibility to the American public is to determine the feasability, environmental cost and impacts of using these resources at this time. Therefore, this information should be obtained if RD&D leasing proceeds and such leasing should proceed slowly to facilitate the data gathering needed to decide upon more extensive commercial exploitation.
- In the past several decades the climate science community has become much more concerned about the future adverse impact of global warming:

  > "Finally, we are close to dead certain, from the Greenland ice cores and other climate records, that abrupt climate changes did actually occur during the Ice Age, . . . The existence of abrupt climate change is by now more of an observational fact than a theory. . . . [A furry stuffed toy snake hangs in the window of Broecker's office with a sign around its neck:] "I am the Climate Beast and I am Hungry."[1]

- In February of 2012 the USDA released it's reclassification of the climate zone of Aspen from Zone 3 to the significantly warmer Zone 5, based upon minimal winter temperature measurements – this after only 22 years since the prior 1990 classification. We have just had one of the warmest winters on record, an unusual early spring and unusually early and violent tornados in the Midwest. Increases in greenhouse gas concentrations which have risen more steeply since ~1960 and record rising temperatures suggest these are harbingers of climate change rather than simply weather phenomena. It is clear that global climate change issues must be considered in the RD&D analysis. Moreover, the potential cost of climate change dwarfs the cost of working fast to minimize and then reduce greenhouse gas production.

[1] Broecker, WS and Kunzig, R: Fixing Climate: What past climate changes reveal about the current threat and how to counter it. Hill and Wang, 2008, pp129-130.

- I asked George Richardson, a friend who knows energy business intimately to comment on my note. He referenced his group's website www.usenergypolicycoalition.org and stated:

  > "From my perspective, **the scarcity of water,** already an issue in the west, coupled with **the dramatic amount of energy needed to produce these resources** (EROEI, or energy return on energy invested) are enough to take them off the list of future energy choices without a viable method of CCS (Carbon Capture and Storage). From my 20 odd years in the oil and gas business, seldom did anyone ever deal with much more than "financial costs" and rates of return on a field or individual wells. . . . Oil shales, and tar sands, are "bottom of the barrel" choices in that they are heavier oils that are sticky bitumens that contain little or no of the high octane lighter hydrocarbons that combust at lower temperatures. . . . if one considers the true total "economic" cost per barrel, as compared to coal gasification or liquified natural gas, we will probably never develop these resources, especially if they are in competition with farmers who need lots of water to irrigate their crops. The normal game played by the petroleum industry is to try to garner subsidies that will help develop a profitable business model for oil shale development and then the subsidies never go away and the business flounders if the subsidies are withdrawn because the economics require perpetual subsidies by the government."

- Given the land use, environmental, water, global climate, socioeconomic and other issues involved in progressing to full scale commercial development it is ***derelict*** for the BLM not to have specified an ongoing collaborative research endeavor in the PEIS. The high energy consuming forms of proposed fossil fuel extraction from rock and sand need to be evaluated critically and quantitatively in view of their apparent unnecessary and excessive contributions to climate change, compared to fluid oil and gas fossil fuels. Yet there is no clear statement of the goals and parameters to be evaluated by the government in the R&D phases of the project.

- Finally, I live around the corner from Coal Creek in Redstone, Colorado where the effluvia from an unrestored, abandoned coal mine site continues to pollute. Bonds may cover the RD&D phase, but once commercial exploitation is permitted a significant revenue stream, sufficient to cover worst case reclamation costs needs to be secured and set aside. If all the funds are not needed to reclaim the site from which they were derived they can be used to restore a multitude of sites such as Coal Creek and the abandoned Mid-Continent coal mine.

- p 62 [1-16]: The purely technical issues are likely to be solved an RD&D phase focused upon the technical feasibility of producing "commercial quantities of shale oil from the lease."

  - On p 66, there is a provision for "site-specific analysis . . . prior to issuance of . . . leases, the environmental consequences to specific resource values and uses within areas . . . would be analyzed." This vague hand waving should be replaced by a clear definition of comprehensive research objectives and decisional parameters. These obvious data requirements are nowhere specified, indeed in some sections it sounds as if they will not be obtained [see appendix J 3.1.3].

- pp77-78: There should be specific acknowledgement of the excess energy, water use and possible contamination issues related to fracking or similar technologies used for *in-situ* extraction of oil and gas from tar sands and shales. How will they be monitored during RD&D and or prevented or detected presuming leases are granted?

- p. 92. States BLM plan to do a NEPA analysis. At the risk of boring: what additional data will be collected prospectively upon which to base this decision?
- p 209 ff. A great deal of information about present, past and possible future uses of valuable fossil fuel deposits, recreational, farm and ranch use and other material. However, the maps presented completely fail to adequately depict present farm, ranch and recreational uses in the region. There is a great deal of land here that could be abused by little justified, poorly planned, overzealous use for poor grade fuel.
- Volume 2.

This volume reviews the multiple impacts of the proposed technologies in detail. There is no plan for adequate measurement of adverse impacts which occur during the RD&D or initial commercial exploitation phases, nor does it specificy how such measurement would be used in the final decision processes for proceeding with commercial exploitation of these valuable fossil fuel resources.

The proposed explorations are in an arid part of the country. Therefore, it is essential that the BLM measure the effect of the oil and gas research and commercial use phases on river water and underground water quality, especially in the RD&D phase.

  - page 79 [4-55] It is a truism that localized GHG production will have a minimal impact on global GHG production. Nevertheless, the extra GHG produced extracting oil and gas from shale and sand make these dirty sources of energy compared to the use of fluid oil or gas. This extra impact should be quantified by the BLM with the EPA and DOE.

- Volume 3.

The impacts are time broken down by the different proposed alternatives. **Review of the BLM proposals would be facilitated by combining volumes 2 and 3.**

- Volume 4:

Reviews the comments made after the initial public presentations. What is not clear is why issues were considered outside the scope of the PEIS. As an example, the BLM rejected baseline environmental studies as involving too great an area to be practical [J.3.1.3, pp J-19 ff, or V.4, 425 ff]. However, the BLM does not appear to contemplate an essential step for future decision making: conducting a relevant set of measurements in each of the RD&D lease areas. Absent this information it is difficult to understand how final decisions can be properly made.

The comment that green plants mitigate CO2 release [V4 - p423 (J-17), line 46] is a truism and false: – green plants have not been able to keep up with the Anthropocene's fossil fuel consumption and release of CO2 and this will not change. Available climate science data indicate that CO2 production needs to be slowed, then decreased and sooner rather than later.